AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original) A self-supporting construction element of expanded plastics, comprising:

a) a central body, substantially parallelepipedic in shape, provided with opposite faces;

b) at least one reinforcing section bar transversely extending across the central body between said opposite faces and embedded in the expanded plastics; and

c) a first stretched mesh for supporting at least one layer of a suitable covering material, said stretched mesh being associated with a fin of said reinforcing section bar lying flush with and substantially parallel to at least one of the faces of said construction element.

2. (Original) Construction element according to claim 1, wherein the reinforcing section bar is longitudinally extending within the central body along substantially the entire length thereof.

3. (Original) Construction element according to claim 1, wherein the reinforcing section bar has a thickness of form 0.4 to 1.2 mm.

4. (Original) Construction element according to claim 1, wherein the first stretched mesh for supporting at least one covering layer comprises opposite lateral portions lying at least in part flush with opposite lateral sides of the construction element.

5. (Original) Construction element according to claim 1, wherein the stretched mesh essentially consists of a rhomb-shaped mesh having a length-to-height rhomb ratio of 2:1.

6. (Original) Construction element according to claim 1, wherein the stretched mesh as a thickness of from 0.4 to 1.5 mm.

7. (Original) Construction element according to claim 1, further comprising a layer of plaster, cement, or cement reinforced with fibers of s suitable fire-retarding or fire-resistant material, associated to the first stretched mesh.

8. (Original) Construction element according to claim 1, wherein the reinforcing section bar transversely extends across the central body through the whole thickness thereof.

9. (Original) Construction element according to claim 8, wherein the reinforcing section bar comprises a pair of opposite fins lying flush with and substantially parallel to the faces of the construction element.

10. (Original) Construction element according to claim 9, further comprising a second stretched mesh for supporting at least one covering layer, the first and the second meshes being respectively associated to the opposite fins of the reinforcing section bar.

11. (Original) Construction element according to claim 9, further comprising a rigid covering element associated to the reinforcing section bar at a side opposite with respect to the first stretched mesh.

12. (Original) Construction element according to claim 11, wherein the rigid covering element is one of a panel of gypsum paperboard, wood, a rigid plastics, a decorating material, and a structural material.

13. (Original) Construction element according to claim 1, wherein the reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

14. (Original) Construction element according to claim 13, wherein the openings have a total area comprised between 10% and 60% of the overall surface areas of the reinforcing section bar.

15. (Original) Construction element according to claim 13, wherein the openings have a circular cross-section with a diameter of from 15 to 150 mm.

16. (Original) Construction element according to claim 13, wherein the openings are peripherally provided with a lip protruding from the central portion and fully embedded in the expanded plastics.

17. (Original) Construction element according to claim 13, wherein the openings are provided with one or more protrusions being distributed around their peripheral edge and angularly offset from one another, the protrusions being fully embedded in the expanded plastics.

18. (Original) A method of manufacturing a construction element according to any one of claims 1-17, comprising the steps of:

associating a stretched mesh for supporting at least one layer of a suitable covering material to a fin extending from one end of a reinforcing section bar;

positioning the thus associated reinforcing section bar and stretched mesh into a molding seat of a suitable apparatus for molding plastics;

feeding expandable plastics granules into the molding seat; and

expanding and then boding together the plastics granules in the molding seat so as to embed the reinforcing section bar into a mass of expanded plastics having a predetermined shape and to maintain the stretched mesh at least in part substantially flush with the mass of expanded plastics.

19. (Original) A method according to claim 18, wherein the stretched lath and the reinforcing section bar are associated with each other by welding.

20. (Original) The method according to claim 18, wherein the stretched mesh is a stretched metallic lath essentially consisting of a rhomb-shaped mesh having a length-to-height rhomb ratio of 2:1.

21. (Original) A method according to claim 18, further comprising an additional step of enucleating at least part of the stretched mesh from the mass of expanded plastics.

22. (Original) A method according to claim 21, wherein the stretched mesh is enucleated from the mass of expanded plastics by means of a thermal treatment carried out by feeding onto the mass a sheet of warm air heated at a temperature of from 220° to 260°C.

23. (Original) A method according to claim 22, wherein the thermal treatment is preceded by a step of scraping a skin layer off the mass of expanded plastics.

24. (Original) A method of manufacturing a construction element according to any one of claims 1-17, comprising the steps of:

positioning a reinforcing section bar, provided with at least one fin at one end, into a molding seat of a suitable apparatus for molding plastics;

feeding expandable plastics granules into the molding seat;

expanding and then bonding together with plastics granules in the molding seat so as to embed the reinforcing section bar into a mass of expanded plastics having a predetermined shape and to maintain the at least one fin substantially flush with the mass of expanded plastics; and

associating a stretched mesh for supporting at least one layer of a suitable covering material to the at least one fin of the reinforcing section bar.

25. (Original) A method according to claim 24, further comprising an additional step of enucleating the at least one fin of the reinforcing section bar from the mass of expanded plastics.

26. (Original) A method according to claim 25, wherein the at least one fin is enucleated from the mass of expanded plastics by means of a thermal treatment carried out by feeding onto the mass a sheet of warm air heated to a temperature of from 220.degree. to 260.degree. C.

27. (Original) A self-supporting construction element of expanded plastics, comprising:

a) a central body, substantially parallelepipedic in shape, provided with opposite faces;

b) a plurality of reinforcing section bars transversely extending across the central body between said opposite faces embedded in the expanded plastics; the reinforcing section bars being substantially Z-shaped and arranged in mirror image relationship about a longitudinal plane of symmetry of the construction element and comprising a central portion and a pair of respectively lower and upper fins extending perpendicularly in opposite directions from the ends of the central portion; at least one of said lower and upper fins lying flush with and substantially parallel to at least one of said opposite faces of the construction element; and

c) a sheet-like member for supporting at least one layer of a suitable covering material associated to said at least one fin lying flush with and substantially parallel to at least one of the faces of said construction element.

28. (Original) A self-supporting construction element according to claim 27, wherein said upper fin of the reinforcing section bar has a first portion, extending substantially perpendicularly to the central portion of the reinforcing section bar and a second end portion which is bent toward the central portion.

29. (Original) A self-supporting construction element according to claim 27, wherein said upper fin of the reinforcing section bar extends from the central portion of the reinforcing section bar towards a lateral side of the construction element.

30. (Original) Construction element according to claim 27, wherein the reinforcing section bar transversely extends across the central body through the whole thickness thereof.

31. (Original) Construction element according to claim 27, wherein the reinforcing section bar is longitudinally extending within the central body along substantially the entire length thereof.

32. (Original) Construction element according to claim 27, wherein the sheet-like member for supporting at least one covering layer comprises opposite lateral portions lying at least in part flush with opposite lateral sides of the construction element.

33. (Original) Construction element according to claim 27, wherein the sheet-like member for supporting at least one covering layer is a stretched metallic lath essentially consisting of a rhomb-shaped mesh having a length-to-height rhomb ratio of 2:1.

34. (Original) Construction element according to claim 33, further comprising a layer of plaster, cement or cement reinforced with fibers material, associated to the supporting lath.

35. (Original) onstruction element according to claim 27, wherein the reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

36. (Original) Construction element according to claim 35, wherein the openings are peripherally provided with a lip protruding from said central portion and fully embedded in said expanded plastics.

37. (Original) Construction element according to claim 35, wherein the openings are provided with one or more protrusions being distributed around their peripheral edge and angularly offset from one another, the protrusions being fully embedded in the expanded plastics.

38. (Original) Construction element according to claim 27, wherein the reinforcing section bar comprises a pair of opposite fins lying flush with and substantially parallel to the opposite faces of the construction element.

39. (Original) Construction element according to claim 38, further comprising a second lath for supporting at least one covering layer, the first and the second laths being respectively associated to the opposite fins of the reinforcing section bar.

40. (Original) Construction element according to claim 38, further comprising a rigid covering element associated to the at least one fin of the reinforcing section bar.

41. (Original) Construction element according to claim 40, wherein the rigid covering element is one of a panel of gypsum paperboard, wood, and a rigid plastic.

42. (currently amended): A construction assembly comprising:

a plurality of elements of expanded plastics arranged side-by-side, said element including:

a) a central body, substantially parallelepipedic in shape, provided with opposite upper and lower faces and with opposite lateral sides;

b) at least one reinforcing section bar transversely extending across the central body between said upper and lower faces and embedded in the expanded plastics;

c) a sheet-like member for supporting at least one layer of a suitable covering material, said sheet-like member being associated to a fin of said reinforcing section bar lying flush with and substantially parallel to at least one of the faces of said construction element;

a concrete casting housed in a cavity defined between said opposite lateral sides of adjacent element of said plurality of elements of expanded plastics; and

means for stably anchoring the sheet-like member to said concrete casting.

43. (Original) A construction assembly according to claim 42, wherein said reinforcing section bar is longitudinally extending within said central body of the elements of expanded plastics along substantially the entire length thereof.

44. (Original) A construction assembly according to claim 42, wherein said reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

45. (Original) A construction assembly according to claim 42, wherein said means for stably anchoring the sheet-like member to the concrete casting comprises an end portion of the sheet-like member extending in a substantially vertical direction and lying partly flush with the opposite lateral sides of said elements of expanded plastics.

46. (Original) A construction assembly according to claim 45, wherein said end portion of the sheet-like member extends flush with said element of expanded plastics within grooves longitudinally formed lengthwise in the opposite lateral sides of said elements of expanded plastics.

47. (Original) A construction assembly according to claim 42, wherein said sheet-like member for supporting at least one layer of a suitable covering material is a stretched metallic lath essentially consisting of a rhomb-shaped mesh having a length-to-height rhomb ratio of 2:1.

48. (Original) A construction assembly according to claim 47, further comprising a layer of plaster, cement, or cement reinforced with fiber material, associated to said sheet-like member.

49. (Original) A construction assembly according to claim 42, wherein said elements of expanded plastics further comprise a pair of lugs laterally and longitudinally extending along the opposite sides of said central body.

50. (Original) A construction assembly according to claim 49, further comprising a substantially mating joint for stably connecting side-by-side said elements of expanded plastics.

51. (Original) A construction assembly according to claim 50, wherein said substantially mating joint comprises a groove and a rib of mating shape laterally formed in the lugs of the elements of expanded plastics and longitudinally extending along the full length thereof.

52. (Original) A construction assembly according to claim 49, further comprising a plurality of reinforcing rods embedded in the concrete casting housed in the cavity defined between said opposite lateral sides of adjacent elements of expanded plastics.

53. (Original) A construction assembly according to claim 52, further comprising means for supporting said plurality of reinforcing rods at a predetermined distance from the lugs of the elements of expanded plastics.

54. (Original) A construction assembly according to claim 53, wherein said supporting means comprises a plurality of ribs extending from the lugs of the elements of expanded plastics and pitchwise arranged along the length thereof.

55. (Original) A construction assembly for erecting bearing and partition walls in a building comprising:

a plurality of wall elements of expanded plastics arranged side-by-side, said elements including:

a) a central body, substantially parallelepipedic in shape, provided with opposite upper and lower faces and with opposite lateral sides and with at least one cavity;

b) at least one reinforcing section bar transversely extending across the central body between said upper and lower faces and embedded in the expanded plastics;

c) a sheet-like member for supporting at least one layer of a suitable covering material, said sheet-like member being associated to a fin of said reinforcing section bar lying flush with and substantially parallel to at least one of the faces of said wall elements; and

a concrete casting housed in the at least one cavity defined within the central body of said wall elements and between opposite lateral sides of adjacent elements of said plurality of wall elements of expanded plastics.

56. (Original) A construction assembly according to claim 55, wherein said reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

57. (Original) A construction assembly as set forth in claim 55, wherein said partition walls comprise at least one cavity filled with concrete.

58. (Original) A construction assembly according to claim 55, wherein said sheet-like member is a stretched metallic lath essentially consisting of a rhomb-shaped mesh having a length-to-height rhomb ratio of 2:1.

59. (Original) A construction assembly according to claim 58, further comprising a layer of plaster, cement, or cement reinforced with fiber material, associated to said sheet-like member.

60. (Original) A construction assembly according to claim 55, wherein said reinforcing section bar transversely extends across said central body through the whole thickness thereof.

61. (Original) A construction assembly according to claim 60, wherein said reinforcing section bar comprises a pair of opposite fins lying flush with and substantially parallel to the faces of said wall element.

62. (Original) A construction assembly according to claim 61 further comprising a pair of sheet-like members for supporting at least one covering layer, said sheet-like members being respectively associated to said opposite fins of the reinforcing section bar.

63. (Original) A construction assembly according to claim 61, wherein said reinforcing section bar is longitudinally extending within said central body along substantially the entire length thereof.

64. (Original) A construction assembly according to claim 61, further comprising a rigid covering element associated to said reinforcing section bar at a side opposite with respect to said sheet-like member.

65. (Original) A construction assembly according to claim 64, wherein said rigid covering element is one of a panel of gypsum paperboard, wood, and a rigid plastic.

66. (previously presented): A self-supporting construction element of expanded plastics, comprising:

a) a central body, substantially parallelepipedic in shape, provided with opposite faces and uncovered opposite lateral sides exposing said expanded plastics;

b) a plurality of reinforcing section bars transversely extending across the central body between said opposite faces and embedded in the expanded plastics between said opposite lateral sides so as to leave said opposite lateral sides uncovered; the reinforcing section bars being provided with a substantially Z-shape~~d~~ and arranged in mirror image relationship about a longitudinal plane of symmetry of the construction element and comprising a central portion and a pair of respectively lower and upper fins extending perpendicularly in opposite directions from the ends of the central portion; at least one of said lower and upper fins lying flush with and substantially parallel to at least one of said opposite faces of the construction element, and

c) a rigid covering element associated to said at least one fin lying flush with and substantially parallel to at least one of said opposite faces of the construction element.

67. (previously presented): Construction element according to Claim 66, wherein the reinforcing section bar transversely extends across the central body through the whole thickness thereof.

68. (previously presented): Construction element according to Claim 66, wherein the rigid covering element is a panel of gypsum paperboard, wood, a rigid plastics, or another suitable material.

69. (previously presented): Construction element according to Claim 66, wherein the reinforcing section bar is longitudinally extending within said central body along substantially the entire length thereof.

70. (previously presented): Construction element according to Claim 66, wherein the reinforcing section bar is provided with a plurality of openings formed in the central portion thereof.

71. (previously presented): Construction element according to Claim 70, wherein the openings have a total area comprised between 10% and 60% of the overall surface area of the reinforcing section bar.

72. (previously presented): Construction element according to Claim 70, wherein the openings have a circular cross-section with a diameter of from 15 to 150 mm.

73. (previously presented): Construction element according to Claim 70, wherein the openings are peripherally provided with a lip protruding from the central portion and fully embedded in said expanded plastics.

74. (previously presented): Construction element according to Claim 70, wherein the openings are provided with one or more protrusions being distributed around their peripheral edge and angularly offset from one another, said protrusions being fully embedded in the expanded plastics.

75. (previously presented): A construction assembly comprising:

- a plurality of elements of expanded plastics arranged side-by-side, said elements including:

a) a central body, substantially parallelepipedic in shape, provided with opposite upper and lower faces and with opposite lateral sides;

b) at least one reinforcing section bar transversely extending across the central body between said upper and lower faces and embedded in the expanded plastics;

c) a rigid covering element associated to a fin of said reinforcing section bar lying flush with and substantially parallel to at least one of the faces of said wall elements; and

- a concrete casting housed in a cavity defined between said opposite lateral sides of adjacent elements of said plurality of elements of expanded plastics and over the central body thereof; and

- means for stably anchoring the rigid covering element to said concrete casting.

76. (previously presented): A construction assembly according to claim 75, wherein said reinforcing section bar is longitudinally extending within said central body of the elements of expanded plastics along substantially the entire length thereof.

77. (previously presented): A construction assembly according to claim 75, wherein said reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

78. (previously presented): A construction assembly according to claim 75, wherein said elements of expanded plastics further comprise a pair of lugs laterally and longitudinally extending along the opposite sides of said central body.

79. (previously presented): A construction assembly according to claim 78, further comprising a substantially mating joint for stably connecting side-by-side said elements of expanded plastics.

80. (previously presented): A construction assembly according to claim 79, wherein said substantially mating joint comprises a groove and a rib of mating shape laterally formed in the lugs of the elements of expanded plastics and longitudinally extending along the full length thereof.

81. (previously presented): A construction assembly according to claim 75, further comprising a plurality of reinforcing rods embedded in the concrete casting housed in the cavity defined between said opposite lateral sides of adjacent elements of expanded plastics.

82. (previously presented): A construction assembly according to claim 78, further comprising means for supporting said plurality of reinforcing rods at a predetermined distance from the lugs of the elements of expanded plastics.

83. (previously presented): A construction assembly according to claim 82, wherein said supporting means comprises a plurality of ribs extending from the lugs of the elements of expanded plastics and pitchwise arranged along the length thereof.

84. (previously presented): A construction assembly for erecting bearing and partition walls in a building comprising:

- a plurality of wall elements of expanded plastics arranged side-by-side, said elements including:

a) a central body, substantially parallelepipedic in shape, provided with opposite upper and lower faces and with opposite lateral sides and with at least one cavity;

b) at least one reinforcing section bar transversely extending across the central body between said upper and lower faces and embedded in the expanded plastics;

c) a rigid covering element associated to a fin of said reinforcing section bar lying flush with and substantially parallel to at least one of the faces of said wall elements; and

- a concrete casting housed in the at least one cavity defined within the central body of said wall elements and between opposite lateral sides of adjacent elements of said plurality of wall elements of expanded plastics.

85. (previously presented): A construction assembly according to claim 84, wherein said rigid covering element is a panel of gypsum paperboard, wood, a rigid plastics, or another suitable material.

86. (previously presented): A construction assembly according to claim 84, wherein said at least one reinforcing section bar transversely extends across said central body through the whole thickness thereof.

87. (previously presented): A construction assembly according to claim 84, wherein said at least one reinforcing section bar comprises a pair of opposite fins lying flush with and substantially parallel to the faces of said wall element.

88. (previously presented): A construction assembly according to claim 84, wherein said at least one reinforcing section bar is longitudinally extending within said central body along substantially the entire length thereof.

89. (previously presented): A construction assembly according to claim 84, wherein said at least one reinforcing section bar is provided with a plurality of openings formed in a central portion thereof.

90. (new) A construction assembly comprising:

a plurality of elements of expanded plastics arranged side-by-side, said element including:

a) a central body, substantially parallelepipedic in shape, provided with opposite upper and lower faces and with opposite lateral sides;

b) at least one reinforcing section bar embedded in the expanded plastics;

c) a sheet-like member for supporting at least one layer of a suitable covering material, said sheet-like member being associated to a fin of said reinforcing section bar;

a concrete casting housed in a cavity defined between said opposite lateral sides of adjacent element of said plurality of elements of expanded plastics; and

means for stably anchoring the sheet-like member to said concrete casting.